WALL PANEL FOR A PORTABLE RESTROOM

CROSS-REFERENCE TO RELATED APPLICATION

[0001] The present invention claims priority to United States Provisional Patent Application Serial No. 60/448,506 filed on February 19, 2003 and entitled "Wall Panel For A Portable Restroom."

TECHNICAL FIELD

[0002] This invention generally relates to a portable restroom. More specifically, to a wall panel for a portable restroom and a method of making such a wall panel for a portable restroom.

BACKGROUND

[0003] Portable restrooms are in wide-spread use today at construction sites, campgrounds, outdoor entertainment events and the like. Such portable restrooms typically have a roof connected to three side panels and a front panel having a door. The side panels and door panel are connected to a base. Prior art restrooms have wall panels that have exterior surfaces having styling lines and other features for improving the aesthetic appearance and structural integrity of the wall panel. While prior art portable restrooms incorporate wall panels that achieve their intended purpose, many problems still exist. For example, the styling lines and other features incorporated into the exterior surface of the wall panels create an interior surface of the wall panel that is replete with indentations and other features which creates a

non-smooth interior surface on each of the wall panels. This non-smooth surface makes it more difficult to clean the interior surfaces of the restroom.

[0004] Therefore, what is needed is a new system and method for manufacturing the wall panels of a portable restroom. The new and improved system and method should allow the portable restroom interior to be cleaned more easily.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] Further features and advantages of the invention will become apparent from the following discussion and the accompanying drawings in which:

[0006] FIGURE 1 is perspective view of the portable restroom incorporating the wall and door panels of an embodiment of the present invention;

[0007] FIGURE 2 is a front view of the outside surface of the wall panel of the portable restroom of Figure 1, in accordance with an embodiment of the present invention;

[0008] FIGURE 3 is a cross-sectional view of the wall panel of Figure 2 along lines A-A;

[0009] FIGURE 4 is a front view of the inside surface of the wall panel of the portable restroom of Figure 1; and

[0010] FIGURE 5 is a flow chart illustrating a method for manufacturing a wall panel, in accordance with an embodiment of the present invention.

BRIEF SUMMARY OF THE INVENTION

[0011] In an aspect of the present invention, a portable restroom having a wall panel is disclosed. The wall panel of the present invention has an outside surface and an inside surface. The inside surface of the wall panel is smooth with out any indentations or recesses. The exterior surface of the wall panel, generally, has impressions formed therein.

[0012] In yet another aspect of the present invention, a method of making a wall panel having a smooth interior surface is disclosed.

DESCRIPTION

[0013] The following description of the preferred embodiment is merely exemplary in nature and is in no way intended to limit the invention or its application or uses.

[0014] Referring in particular to Figures 1 and 2, a portable restroom for use in public is generally shown and represented by reference numeral 10. As shown in Figure 1, the portable restroom 10 has wall panels 12, 14 and 15 that form the sides and back of the restroom. The portable restroom 10 also includes a door panel 17 having a door as shown in phantom. It should be understood that wall panels 12, 14 and 15 shown in phantom are substantially identical.

[0015] Portable restroom 10 also includes a roof 16 and a base 18. As shown in Figure 1, roof 16 and base 18 are positioned on top and bottom respectively, of wall panels 12, 14, and 15. The wall panels 12, 14 and 15, roof 16 and base 18 form an enclosure 20. Enclosure 20 includes a tank 22 having an aperture covered by a

toilet seat 24 and a vent pipe 26 for venting gases accumulating in tank 22 out to atmosphere. The enclosure 20 also includes a toilet paper holder 28 attached to side panel 12.

[0016] Referring in particular to Figures 2, 3 and 4, wall panels 12, 14 and15 include an exterior surface 30 (shown in Figures 2 and 3) and an interior surface 32 (shown in Figures 3 and 4). As shown in Figure 2, exterior surface 30 of wall panels 12, 14 and 15 have knits or reinforcement ribs 34 to strengthen the panels (as shown in Figure 3). The knit 34 are formed in pre-determined positions along the panel 12 such that exterior surface 30 is in contact with the interior surface 32. Additionally, exterior surface 30 also includes style lines 36 that vary in length, and depth. These style lines 36 are indentations or raised sections on exterior surface 30 of the wall panels 12.

[0017] In order to facilitate the cleaning of interior surface 32 of side panels 12, 14, and 15 interior surface 30 is smooth and does not have any reinforcement ribs or indentations or the like.

[0018] In an embodiment of the present invention, a method 50 of forming wall panels 12, 14, and 15 wherein exterior surface 30 is provided with knits 34 and style lines 36 and interior surface 32 is smooth is illustrated in Figure 5. In order to form exterior surface 30 of wall panels 12, 14, and 15 heat is applied to a first polymer sheet such as a plastic sheet, as represented by block 52. The first polymer sheet is further heated to a first predefined temperature, as represented by block 54. After the first polymer sheet has been heated to the first predefined temperature, a first mold having suitable inserts to form the reinforcement ribs and styling lines are pressed into contact with the first surface of the first sheet, as represented by block

56. At block 58, a vacuum is applied to the mold and first sheet, which draws the first sheet into the mold and transfers the impression in the mold to the surface of the first sheet.

[0019] The interior surface 32 of wall panels 12, 14 and 15 are formed by heating a second polymer sheet, as represented by block 60. The second polymer sheet is heated to a second predefined temperature, as represented by block 62. The second sheet is pressed into contact with a second mold, as represented by step 64. The second mold has no inserts. The second sheet is formed to the desired shape by applying vacuum to the mold and second polymer sheet, as represented by step 66. In order to form wall panels 12, 14 and15, the first and the second molds are pushed together such that the first sheet having a first shape is knitted or joined to the second sheet with the second shape at pre-determined locations, as represented by block 68. Thus, the wall panels 12, 14 and 15 are formed of two sheets of plastic that are knitted together at predefined locations.

[0020] The above method 50 allows the side panels 12 or back panels to be formed, wherein the exterior surface has reinforcing ribs and styling lines and the interior surface is smooth. Additionally, in an embodiment of the present invention, the knits and reinforcing ribs are only formed and visible on the outside surface of the side or back wall panels of the restroom.

[0021] As any person skilled in the art will recognize from the previous description and from the figures and claims, modifications and changes can be made to the preferred embodiment of the invention without departing from the scope of the invention as defined in the following claims.